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EVALUATION OF THE COMMUNICATION SKILLS CENTERS PROJECT.

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A reading program was established to provide remedial reading therapy for disadvantaged students and inservice training in diagnostic and remedial techniques for their regular classroom teachers. Reading achievement gains exhibited as a result of the program were measured according to pre- and posttest scores on standardized reading achievement tests. Improvement in students' school-related attitudes and classroom learning, and the value of the inservice workshop program were measured by questionnaires administered to workshop participants. It was found that program participants in grades three through six gained in reading comprehension achievement at a normal rate, which was significantly greater than would be expected for normal-achieving students and over twice as great as would be expected without the intervention of reading therapy. Of 144 randomly selected pupil participants, 50 percent showed improved attitudes towards school and 56 percent improved the quality of their schoolwork. Most of the 596 teachers who attended the inservice workshop reported that the training was valuable and practical. It was suggested, however, that there be closer communication between program personnel and teacher participants and more feedback of diagnostic information to students' regular classroom teachers. (LB)

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EVALUATION OF THE COMMUNICATION SKILLS CENTERS PROJECT[1]

Detroit Public Schools January, 1968

Background of the Project

The Problem of Reading Retardation Among Inner-City School Children

Results of Detroit's regularly scheduled achievement tests show that large numbers of inner-city school children are severely retarded in reading ability, and that the older the child, the greater is the extent of retardation. When serious reading deficiencies develop and persist, these children often meet frustration and failure in their school work. Complicating the problem is the fact that very few teachers are able to provide effective remedial reading instruction in the regular classroom situation. Indeed, the kind of individual diagnosis and teaching necessary to remedy serious reading deficiencies is virtually impossible in classes of thirty to forty children. Consequently, the retarded reader generally becomes more retarded, more discouraged, and less able to achieve his potential for scholastic achievement. These conditions clearly indicate a need for improvement of the quality of remedial reading instruction available to disadvantaged children and youth in Detroit.

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UD 005 302

Purposes of the Communication Skills Centers Project

The Communication Skills Centers Project (CSC) was established as one approach to meet the need for improved remedial reading therapy for Detroit's disadvantaged school children and youth.

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[1] Funded under the Elementary and Secondary Education Act, Title I and the State Remedial Reading Fund

The general and specific objectives of the project are as follows:

General Objectives

1. To reduce measurably the extent of retardation in reading for educationally deprived pupils from low-income families in grades 2-12 of Detroit schools.

2. To gain further knowledge and skills for the effective operation of communication skills centers providing remedial services for large numbers of disadvantaged children and youth.

Specific Objectives

1. CSC pupils will show greater rates of gain in reading achievement than they have shown before enrollment in the project.

2. CSC pupils will improve their attitudes toward learning and their achievements in their regular school classrooms.

3. Regular classroom teachers will learn useful skills in the use of diagnostic and remedial reading techniques through participation in workshops conducted by CSC personnel.

A separate facet of the CSC Project is the Language Retardation Unit, the purpose of which is to determine the benefits to be derived from exposing preschool language-retarded children to a daily program of intensive language therapy under the guidance of special education personnel. Results of an evaluation of the Language Retardation Unit are presented in a separate report.

The Operation of the Project

During the school year 1965-66 the CSC Project was established and operated from February through August, 1966. Remedial reading services were provided at five centers which served pupils from schools in three regions of the Detroit Public Schools. A report on the evaluation of the project for the school year 1965-66 was issued in February, 1967, by the Research and Development Department.

During the school year 1966-67 the project was expanded. A sixth regular center was opened; supplementary CSC classrooms were established in 14 schools; and a special reading development center was established.

The 6 regular centers served pupils from 60 public schools and 26 nonpublic schools located in regions 3, 8, and 9 of the Detroit Public Schools.

Two centers operated in each region, an elementary center serving elementary and junior high school pupils, and a high school center serving junior and senior high school pupils. The 3 elementary centers were housed in special transportable units on the school grounds at the Berry School (Region 8), the Campbell Annex School (Region 9), and the Winterhalter School (Region 3). The high school center in Region 3 operated in transportable units at Mackenzie High School. The high school center in Region 9 was housed in classrooms at Murray and Northeastern High Schools. The high school center in Region 8 operated in transportable units at Southeastern High School and in classrooms at Eastern High School.

The staff at each regular center included the following personnel:

1 junior administrative assistant,
6 remedial reading teachers,
1 reading diagnostician,
1 psychologist (half-time),
1 social therapist,
1 clerk typist, and
1 lay aide.

CSC pupils were selected on the basis of referrals initiated by teachers or principals at project feeder schools.[1] Elementary and junior high school pupils were transported to and from the centers on CSC busses. Senior high pupils walked to centers where they were enrolled.

During the regular school year pupils served at the elementary centers attended two 60 minute classes per week. Pupils enrolled at the high school centers attended four 45 minute sessions per week. During the summer session most pupils attended one 60 minute class per day, five days per week.

Remedial reading therapy at the CSC centers began with diagnoses of the pupils' reading deficiencies. Following this, pupils were placed in small classes (6 to 10 pupils per class) for instruction. Using a variety of specialized remedial reading materials and equipment, CSC teachers strove to

[1]Project feeder schools are those schools which send pupils to CSC centers for remedial instruction.

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individualize instruction to meet each pupil's needs. Children whose reading disabilities appeared to be related to underlying problems of personal or social maladjustment were referred to the social therapist or to the psychologist for further diagnosis and counseling.

During the school year 1966-67, supplementary CSC classroom units began providing remedial reading services at 11 elementary schools and at 3 junior high schools. Each of these units was staffed by one teacher and served only pupils attending the school where it was located.

The CSC Reading Development Center became operational in February, 1967. This center, housed in the Stevenson Building, consisted of a diagnostic reading clinic, a methods and materials development laboratory, and classroom facilities for small group (2 or 3 pupils) instruction. The staff of the Reading Development Center included a full-time reading diagnostician and one full-time reading consultant. The psychologists and social therapists from the regular CSC centers assisted in the diagnostic clinic on a part-time basis. The function of the diagnostic reading clinic was to carry out thorough diagnoses of the reading disabilities of a limited number of pupils referred from selected schools, and to report findings and recommendations for treatment to the schools. The functions of the methods and materials laboratory were to develop and evaluate new materials and methods for use throughout the CSC program, to serve as a resource center for CSC personnel, and to plan and conduct inservice education workshops for CSC personnel. The small group instruction program provided opportunities for inservice training for new CSC teachers and for testing new materials and methods.

During the period from September, 1966, through August, 1967, CSC personnel conducted several inservice education workshops for regular classroom teachers from Title I eligible schools in Detroit. The purpose of these workshops was to provide inservice training in remedial reading instruction for disadvantaged children. One such workshop, held during February, 1967,

and funded under Project F.A.S.T., was attended by 548 teachers.

Numbers of Disadvantaged Children Served

During the school year, 1966-67, and the summer of 1967, a total of 2845 children in grades 2 through 12 were given remedial reading services by CSC personnel. Numbers of public and non-public school participants attending classes at regular centers and at supplementary classrooms were as follows:

Numbers of Pupils Attending CSC Classes During the Period From September, 1966, to August, 1967

Source of CSC Pupils	Enrolled At		Total
	Centers	Supplementary Classrooms	
Public Schools	2053	430	2483
Non-Public Schools	362		362
Total	2415	430	2845

An indication of the numbers of participants by school level is provided in the following table which is based on the CSC membership report for the week of June 5, 1967.

Numbers of Pupils Enrolled in CSC Classes During the Week of June 5, 1967, by Grade Span

Type of CSC Unit Attended	Enrollment by Grade Span			Total
	Grades 2-6	Grades 7-9	Grades 10-12	
Regular Center	894	235	626	1755
Supplementary Classroom	328	90		418
Total	1222	325	626	2173

It has been stated earlier in this report that pupils whose reading disabilities seemed to be related to underlying problems of personal or social maladjustment were referred to the social therapist or to the psychologist for

individual counseling at the regular centers. During the regular school year approximately 300 CSC pupils attended one or more individual counseling sessions at the centers.

The Evaluation Plan

The general plan for the evaluation of the CSC project was based on two purposes. The primary goal was to determine the extent to which project objectives were attained. The secondary purpose was to identify specific strengths and weaknesses in the CSC program for guidance in improving project services.

The types of evidence sought and the sources of the data collected were as follows:

Type of Evidence	Source of Data
1. Evidences of improvements in reading achievement attained by CSC pupils.	1. Pre- and posttest scores on standardized reading achievement tests.
2. Evidences of changes in CSC pupils' attitudes, behaviors, and achievements in the regular classroom situation.	2. Questionnaires administered to regular classroom teachers of CSC pupils.
3. Evidences of the values of CSC sponsored workshops on remedial reading instruction to regular classroom teachers.	3. Questionnaires administered to workshop participants.
4. Evidences concerning strengths and weaknesses in CSC program.	4. Questionnaire administered to regular classroom teachers of CSC pupils.

This report is limited to results of an evaluation of the CSC program at the regular CSC centers only. A report concerning the evaluation of the project's supplementary classroom program will be issued at a later date. It will be noted, too, that the current report includes no data concerning reading achievement growth by pupils who attended CSC classes during the summer of 1967. The July civil disturbances in Detroit resulted in a sharp decline in attendance at CSC classes and in a severe loss in numbers of

pupils given a posttest. Moreover, the validity of those posttests which were administered probably suffered greatly as a result of the tension, anxiety, and general unrest at the time. For these reasons, it seemed unwise to report the limited amount of available data on reading achievement gains made during the summer session.

Gains in Reading Achievement Made by CSC Pupils

Introduction

The measurement of gains in reading achievement made by pupils attending CSC classes is based on the results of pre- and posttests. All CSC pupils were pretested at the time of their enrollment at a project center. Posttests were administered at the end of the first semester and at the end of the second semester of the school year 1966-67. Third grade pupils were pre- and post-tested on the California Reading Test, Upper Primary level; pupils in grades 4-6, on the Stanford Reading Test, Intermediate I level; junior high school pupils, on the Stanford Reading Test, Intermediate II level; and senior high school pupils on the Stanford Reading Test, Intermediate II or Advanced levels. All pre- and posttests were administered by CSC personnel. The California Reading Test booklets were handscored by project staff members. The Stanford Reading Test answer sheets were machine-scored by the Research and Development Department.

The analysis of reading achievement gains presented below is based exclusively on test results for pupils who attended classes at the regular CSC centers during the regular school year, 1966-67.

The major question which guided the collection and analysis of achievement test data is "What measurable effect does the CSC program have on pupil growth in reading achievement?" Data were collected and treated to seek answers to the following specific questions:

1. How does the rate of gain in reading achievement of pupils enrolled in CSC classes compare with the rate of gain to be expected of normal achievers?

2. How does the rate of gain in reading achievement of pupils enrolled in CSC classes compare with their rate of gain before enrollment in the program?

3. How do pupils in different grades compare with respect to rate of gain in reading achievement while attending CSC classes?

4. How do CSC pupils' gains in vocabulary achievement compare with their gains in reading comprehension?

5. How do gains in reading achievement of pupils attending CSC classes for two semesters compare with gains of pupils attending for one semester?

6. Do pupils attending CSC classes for two semesters make greater or lesser gains during their second semester of treatment than during their first semester?

7. What is the relationship between scholastic aptitude and progress in reading achievement made by CSC pupils?

Limitations of the Analysis of Reading Achievement Gains

The above-stated questions mention a number of comparisons among various groups of CSC pupils with respect to gains and rates of gain in reading achievement. Ideally, the differences between the means of gains and rates of gain for each pair of groups compared would have been tested for statistical significance. This type of analysis, which would have required a considerable amount of additional time, was not made because it was considered that a timely report would be of greater value than a more technically perfect evaluation report issued at a later date.

In making comparisons of the gains or rates of gain reported on the following pages, it should be remembered that small differences between two groups of pupils may well be due to chance alone. Large differences or comparatively small differences between two large groups of pupils, are less likely to be due to chance and more likely to indicate real differences between the groups.

Reading Achievement Gains of Pupils by School Grade Level

Basic information concerning reading achievement gains made by pupils during their periods of enrollment in CSC classes is presented in Table 1, for elementary school pupils; in Table 2, for junior high school pupils; and in Table 3, for senior high school pupils. Each table gives the means of

pupils' pretest and posttest scores in grade equivalent units,[1] the gain which has occurred, the mean of the numbers of months they were enrolled, and their average gain per month of enrollment. The data are reported by grade and by number of semesters enrolled in CSC classes. The numbers of pupils reported as having been tested include only those for whom both pre- and posttest scores were obtained.

Tables 1A, 2A, and 3A are presented to show the approximate rates of gain in reading achievement made by pupils before they attended CSC classes. These pre-CSC rates of gain were derived on the basis of pupils' grade levels and the means of their pretest scores when they enrolled in the project. For example, the last row of data in Table 1A is read as follows: Twenty-five 6th grade pupils attended CSC classes for two semesters. It is assumed that when they started the first grade, their average level of reading achievement was 1.0 in grade equivalent (GE) units. The mean of their CSC pretest scores on the Word Meaning test was 3.5 in GE units (the score to be expected of normal-achieving pupils who have completed 5 months in the third grade). Their gain, therefore, was 2.5 in GE units or 25 school months. It is assumed that these 6th grade pupils had had an average of 50 months of reading instruction in school (a very conservative estimate). The approximate average rate of gain in Word Meaning achievement of .5 was obtained by dividing 25 (the number of months in GE units gained) by 50 (the number of months of reading instruction in school). Rates of gain in reading achievement before enrollment in the CSC program are reported in Tables 1A, 2A, and 3A, for each group of pupils whose rates of gain during enrollment are given in Tables 1, 2, and 3.

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[1] Throughout this report, all means of reading achievement test scores in grade equivalent units are actually the grade equivalent scores corresponding to the means of pupils' raw scores. A listing of all raw score means and standard deviations computed for this evaluation is in the project evaluator's files and may be seen on request.

Table 1

Means of Reading Achievement Gains and Rates of Gain
Made by Elementary School Pupils Attending CSC Classes, 1966-67

CSC Attendance Period	Grade	No. of Pupils Tested	Means of Reading Achievement Test Scores in Grade Equivalent Units						Mean of Nos. of Months Enrolled	Gain Per Month During Enrollment in CSC Classes	
			Word Meaning			Paragraph Meaning				Word Meaning	Paragraph Meaning
			Pre-test	Post-test	Gain	Pre-test	Post-test	Gain			
One Semester	3	52	2.6	2.9	.3(3 mo.)	2.6	2.9	.3(3 mo.)	3.7	.8	.8
	4	52	3.0	3.3	.3	2.6	2.9	.3	3.4	.9	.9
	5	160	3.4	3.6	.2	3.0	3.4	.4	3.7	.5	1.1
	6	73	3.8	4.1	.3	3.6	4.0	.4	3.6	.8	1.1
Two Semesters	3	15	2.0	2.8	.8(8 mo.)	2.1	3.2	1.1(11 mo.)	7.5	1.1	1.5
	4	63	3.1	3.4	.3	2.7	3.3	.6	7.4	.4	.8
	5	117	3.3	3.6	.3	2.9	3.6	.7	7.4	.4	.9
	6	25	3.5	3.9	.4	3.0	3.9	.9	7.4	.5	1.2

Table 1A

Reading Achievement Gains and Rates of Gain
Made by Elementary School Pupils Before Attending CSC Classes

CSC Attendance Period	Grade	No. of Pupils Tested	Means of Reading Achievements in Gd. Equivalent Units						Months of Reading Instruction	Gain Per Month Before Enrollment in CSC Classes	
			Word Meaning			Paragraph Meaning				Word Meaning	Paragraph Meaning
			At Start of Grade 1	CSC Pre-test	Gain	At Start of Grade 1	CSC Pre-test	Gain			
One Semester	3	52	1.0	2.6	1.6(16 mo.)	1.0	2.6	1.6(16 mo.)	20	.8	.8
	4	52	1.0	3.0	2.0	1.0	2.6	1.6	30	.7	.5
	5	160	1.0	3.4	2.4	1.0	3.0	2.0	40	.6	.5
	6	73	1.0	3.8	2.8	1.0	3.6	2.6	50	.6	.5
Two Semesters	3	15	1.0	2.0	1.0(10 mo.)	1.0	2.1	1.1(11 mo.)	20	.5	.6
	4	63	1.0	3.1	2.1	1.0	2.7	1.7	30	.7	.6
	5	117	1.0	3.3	2.3	1.0	2.9	1.9	40	.6	.5
	6	25	1.0	3.5	2.5	1.0	3.0	2.0	50	.5	.4

Table 2

Means of Reading Achievement Gains and Rates of Gain
Made by Junior High School Pupils Attending CSC Classes, 1966-67

CSC Attendance Period	Grade	No. of Pupils Tested	Means of Reading Achievement Test Scores in Grade Equivalent Units						Mean of Nos. of Months Enrolled	Gain Per Month During Enrollment in CSC Classes	
			Word Meaning			Paragraph Meaning					
			Pre-test	Post-test	Gain	Pre-test	Post-test	Gain		Word Meaning	Paragraph Meaning
One Semester	7	42	4.5	5.0	.5(5 mo.)	4.5	4.8	.3(3 mo.)	3.5	1.4	.9
	8	41	5.2	5.7	.5	4.9	5.7	.8	3.5	1.4	2.3
	9	7	6.1	6.3	.2	6.0	6.4	.4	3.2	.6	1.3
Two Semesters	7	34	5.1	5.7	.6(6 mo.)	4.6	5.6	1.0(10 mo.)	7.5	.8	1.3
	8	7	4.2	5.1	.9	4.0	4.7	.7	7.1	1.3	1.0
	9	0									

Table 2A

Reading Achievement Gains and Rates of Gain
Made by Junior High School Pupils Before Attending CSC Classes

CSC Attendance Period	Grade	No. of Pupils Tested	Means of Reading Achievements in Gd. Equivalent Units						Months of Reading Instruction	Gain Per Month Before Enrollment in CSC Classes	
			Word Meaning			Paragraph Meaning					
			At Start of Grade 1	CSC Pre-test	Gain	At Start of Grade 1	CSC Pre-test	Gain		Word Meaning	Paragraph Meaning
One Semester	7	42	1.0	4.5	3.5(35 mo.)	1.0	4.5	3.5(35 mo.)	60	.6	.6
	8	41	1.0	5.2	4.2	1.0	4.9	3.9	70	.6	.6
	9	7	1.0	6.1	5.1	1.0	6.0	5.0	80	.6	.6
Two Semesters	7	34	1.0	5.1	4.1(41 mo.)	1.0	4.6	3.6(36 mo.)	60	.7	.6
	8	7	1.0	4.2	3.2	1.0	4.0	3.0	70	.5	.4
	9	0									

Table 3

Means of Reading Achievement Gains and Rates of Gain
Made by Senior High School Pupils Attending CSC Classes, 1966-67

CSC Attendance Period	Grade	No. of Pupils Tested	Means of Reading Achievement Test Scores in Grade Equivalent Units			Mean of Nos. of Months Enrolled	Gain Per Month During Enrollment in CSC Classes
			Pre-test	Post-test	Gain		
One Semester	10	315	6.0	6.5	.5(5 mo.)	3.8	1.3
	11	82	6.4	6.9	.5	3.6	1.4
	12	39	6.6	7.7	1.1	3.3	3.3
Two Semesters	10	95	6.0	7.2	1.2(12 mo.)	7.8	1.5
	11	11	6.1	6.9	.8	7.5	1.1
	12	8	6.3	8.3	2.0	8.1	2.5

Table 3A

Reading Achievement Gains and Rates of Gain
Made by Senior High School Pupils Before Attending CSC Classes

CSC Attendance Period	Grade	No. of Pupils Tested	Means of Reading Achievements in GE Units			Months of Reading Instruction	Gain Per Month Before Enrollment in CSC Classes
			At Start of Grade 1	CSC Pre-test	Gain		
One Semester	10	315	1.0	6.0	5.0(50 mo.)	90	.6
	11	82	1.0	6.4	5.4	100	.5
	12	39	1.0	6.6	5.6	110	.5
Two Semesters	10	95	1.0	6.0	5.0(50 mo.)	90	.6
	11	11	1.0	6.1	5.1	100	.5
	12	8	1.0	6.3	5.3	110	.5

The evidence concerning growth in reading achievement attained by CSC pupils in grades 3 through 12 is summarized below.

Reading Achievement Gains of Elementary School Pupils (Tables 1 and 1A)

1. The rates of gain by elementary pupils in Paragraph Meaning or reading comprehension achievement during CSC treatment were generally about equal to or higher than rates to be expected of normal achievers (.1 GE unit or 1 month per month of schooling), and considerably greater than the pupils' pre-CSC rates of gain.

2. In general, the rates of gain made by elementary school pupils in Word Meaning achievement during CSC treatment were less than would be expected for normal achievers, and no greater than or even less than the pupils' pre-CSC rates of gain.

3. Pupils attending CSC classes for two semesters generally showed lower rates of gain in Word Meaning achievement than were attained by pupils attending for one semester.

4. Pupils enrolled in the CSC for two semesters generally showed rates of gain in Paragraph Meaning achievement approximately equal to rates attained by pupils enrolled for one semester only (the actual gain of two-semester pupils was, of course, about double that of the one-semester pupils).

The evidence appears to support continuation of the practice of having elementary school children attend CSC classes for a full two semesters.

The results on the Word Reading test for elementary school pupils suggest a need for greater attention by CSC personnel to the development of pupils' reading vocabularies and word recognition skills.

Reading Achievement Gains of Junior High School Pupils (Tables 2 and 2A)

1. In general, the rates of gain made by 7th and 8th graders in both Word Meaning and Paragraph Meaning achievements during CSC treatment periods were greater than would be expected of normal-achieving pupils, and more than double their rates of growth before enrollment in CSC classes.

2. The data presented in Table 2 do not provide evidence that either one semester or two semesters of CSC treatment resulted in clearly superior rates of gain in reading achievement by junior high school pupils.

The substantial progress in reading achievement made by junior high pupils attests to the value of CSC treatment for pupils at this school level. Since the years in grades 7, 8, and 9 are crucial in determining whether or not a

pupil will drop out of school, it is recommended that reconsideration be given to the decision made at the end of the 1966-67 school year to provide CSC services for elementary school pupils only.

Reading Achievement Gains of Senior High School Pupils (Tables 3 and 3A)

1. In general, the rates of gain in reading comprehension achievement shown by senior high school pupils during CSC treatment periods were substantially greater than would be expected of pupils making normal progress in reading.

2. The rates of gain in reading comprehension achievement attained by pupils in grades 10 through 12 during CSC treatment periods ranged from two to six times their rates of gain before attending CSC classes.

3. The data presented in Table 3 reveal no marked difference generally between rates of gain attained during one semester of treatment, and rates attained during two semesters of treatment.

The analysis of the reading achievement test data for pupils in the various grades who attended CSC classes for 2 semesters included the application of T tests to determine whether differences between the means of pre- and posttest raw scores were statistically significant. The results showed that the gains in Word Meaning for pupils in Grades 3, 4, and 5 and the gains of all pupils in Paragraph Meaning are significant at the .01 level. The gains in Word Meaning for pupils in Grades 6 and 7 through 9 were significant at the .05 level. No tests were run to determine the significance of differences between means of pre- and posttest raw scores attained by pupils attending CSC classes for one semester only, because different forms of the tests were administered as pretests than were used as posttests for these pupils.

Reading Achievement Gains of Pupils Attending CSC Classes for Two Semesters

Many pupils attended CSC classes for two semesters. These pupils' total gains in reading achievement for the full two semester treatment period are reported in Tables 1, 2, and 3. Table 4 on page 16 is designed to facilitate comparisons between gains made during the first and second semesters of CSC treatment by elementary, junior high, and senior high school pupils who

Table 4

Comparison of First and Second Semester Gains in Reading Achievement
Made by Elementary, Junior High, and Senior High School Pupils
Attending CSC Classes for Two Semesters

School Level and Subtest	Nof of Pupils Tested	Means of Reading Test Scores in Grade Equivalent Units					Means of Numbers of Months Enrolled		Gain Per Month	
		Pre-test	Posttests		Gains					
			1st Sem.	2nd Sem.	1st Sem.	2nd Sem.	1st Sem.	2nd Sem.	1st Sem.	2nd Sem.
Elementary (Gd. 4-6)										
Word Meaning	185	3.3	3.4	3.6	.1(1 mo.)	.2(2 mo.)	3.6	3.8	.3	.5
Paragraph Meaning	185	2.9	3.1	3.6	.2	.5	3.6	3.8	.6	1.3
Jr. High School										
Word Meaning	42	4.9	5.2	5.7	.3(3 mo.)	.5(5 mo.)	3.5	3.9	.9	1.3
Paragraph Meaning	42	4.6	5.2	5.5	.6	.3	3.5	3.9	1.7	.8
Sr. High School										
Paragraph Meaning	113	6.0	6.9	7.2	.9(9 mo.)	.3(3 mo.)	3.5	4.3	2.6	.7

were enrolled for two semesters. The evidence revealed by the data in Table 4 can be summarized as follows:

1. Elementary pupils attending CSC classes for two semesters showed a considerably greater rate of gain in both vocabulary (Word Reading) and reading comprehension (Paragraph Meaning) achievement during their 2nd semester of treatment than during their 1st semester.

2. Junior high school pupils attending CSC classes for two semesters attained a greater rate of gain in vocabulary achievement during their 2nd semester than during their first semester. Their rate of gain in reading comprehension for the second semester was much less than their first semester rate, but still greater than would be expected on the basis of their progress before CSC treatment.

3. Senior high school pupils attending CSC classes for two semesters generally showed a rate of gain in reading comprehension during their first semester which was nearly four times as great as the rate attained during their second semester. Their second semester rate was little greater than their rate of growth before CSC treatment.

The data in Table 4 provide further evidence that most elementary school pupils should attend CSC classes for two semesters. The marked decline in reading achievement gains made by senior high school students during their second semester of treatment suggests that the value of having these students continue participation in the project for a second semester is questionable.

Relationships Between Reading Achievement Gains and Scholastic Aptitude Levels

A final analysis was done in order to determine the effectiveness of CSC treatment for pupils at different scholastic aptitude levels. To facilitate this analysis all CSC pupils for whom data were available were stratified by scholastic aptitude according to their most recent scores on one of the standardized tests of scholastic aptitude which are administered on a regularly scheduled basis to all Detroit school children. Table 5 shows the distribution of CSC pupils who attended regular CSC centers during 1966-67 by scholastic aptitude stanine levels. The table reports the percent of CSC pupils whose aptitude scores were in each stanine. For purposes of comparison, the percents of pupils scoring in each aptitude stanine according to national norms are also

reported in Table 5. It is readily seen that almost all CSC pupils for whom scholastic aptitude test results were available had scores in the range of stanines 1 through 6 or from markedly below average through average.

Table 5

Distribution of CSC Pupils by Scholastic Aptitude Level Compared with Normal Distribution

Scholastic Aptitude Levels		Percent of Cases	
Description	Stanine	Normal Distribution	CSC Pupils (N=1404)
Markedly Above Average	9	4	0
Above Average	8	7	0
	7	12	1
Average	6	17	5
	5	20	19
	4	17	32
Below Average	3	12	22
	2	7	15
Markedly Below Average	1	4	6

The data in Table 6 are organized to show reading achievement gains made by CSC pupils at three different scholastic aptitude levels. Pupils whose aptitude test scores fell in stanines 1 and 2 are classified as "Very Low," those whose aptitude scores fell in stanine 3 are classified as "Low," and those with scores in stanines 4, 5, or 6 are classified "Normal."

Table 6

Reading Achievement Gains Made by Elementary, Junior High, and Senior High School Pupils Attending CSC Classes by Scholastic Aptitude Level

School Level	Attendance Period	Aptitude Level	No. of Pupils Tested	Means of Reading Achievement Test Scores in Grade Equivalent Units: Word Meaning Pre-test	Word Meaning Post-test	Word Meaning Gain	Paragraph Meaning Pre-test	Paragraph Meaning Post-test	Paragraph Meaning Gain	Mean of Nos. of Months Enrolled	Gain Per Month During Enrollment in CSC Classes: Word Meaning	Gain Per Month During Enrollment in CSC Classes: Paragraph Meaning
Elem. School Gds. 4-6	One Semester	Very Low	40	3.3	3.6	.3(3 mo.)	2.7	3.4	.7(7 mo.)	3.7	.8	1.9
		Low	33	3.1	3.3	.2	2.7	3.1	.4	3.6	.6	1.1
		Normal	129	3.6	3.8	.2	3.3	3.6	.3	3.7	.5	.8
	Two Semesters	Very Low	25	3.2	3.2	.0(0 mo.)	2.7	3.0	.3(3 mo.)	7.4	0.0	.4
		Low	37	3.2	3.4	.2	2.8	3.3	.5	7.5	.3	.7
		Normal	115	3.4	3.7	.3	2.9	3.7	.8	7.4	.4	1.1
Junior High School	One Semester	Very Low	12	4.5	4.7	.2(2 mo.)	4.4	4.9	.5(5 mo.)	3.6	.6	1.4
		Low	12	4.8	5.1	.3	4.5	5.0	.5	3.7	.8	1.4
		Normal	38	5.5	5.8	.3	5.3	5.9	.6	3.5	.9	1.7
	Two Semesters	Very Low	6	4.3	4.8	.5(5 mo.)	3.9	4.7	.8(8 mo.)	7.3	.7	1.1
		Low	12	4.9	5.6	.7	4.5	5.6	1.1	8.0	.9	1.4
		Normal	21	5.1	6.0	.9	4.9	5.8	.9	7.2	1.3	1.3
Senior High School	One Semester	Very Low	94				5.4	5.8	.4(4 mo.)	3.6		1.1
		Low	107				6.2	6.6	.4	3.5		1.1
		Normal	157				6.6	7.2	.6	3.8		1.6
	Two Semesters	Very Low	29				5.4	6.3	.9(9 mo.)	7.8		1.2
		Low	31				6.3	7.1	.8	7.6		1.1
		Normal	47				6.2	7.6	1.4	7.9		1.8

The evidence revealed by the data in Table 6 can be summarized as follows:

1. Among elementary school pupils enrolled in CSC classes for one semester, the pupils in the "very low" aptitude group showed greater rates of gain in reading achievement than did those in the "low" and "normal" aptitude groups. In the case of elementary pupils enrolled in CSC classes for two semesters, rates of gain in reading achievement were correlated with aptitude levels. The "very low:" aptitude pupils made no gain in vocabulary achievement and less than expected gains in comprehension achievement. Both "low" and "normal" aptitude pupils showed lower rates of gain in vocabulary achievement than would be expected on the basis of their pretest scores but greater rates of gain in comprehension than would be expected.

2. Junior high pupils' rates of gain in reading achievement were roughly correlated with their aptitude levels. In vocabulary achievement the "very low" aptitude pupils showed only slightly greater rates of gain than would be expected on the basis of their pretest scores, while both "low" and "normal" aptitude pupils showed definitely greater rates of gain than would be expected. With respect to comprehension achievement, pupils at all three aptitude levels attained greater rates of gain than would be expected of normal-achieving pupils.

3. Among senior high pupils, those in the "normal" aptitude groups made considerably greater rates of gain in reading achievement than did those in either the "very low" or "low" aptitude groups. However, pupils at all three aptitude levels showed greater rates of gain than would be expected of normal-achieving pupils.

The findings appear to indicate that, in general, at all school levels, pupils of "low" and "very low" scholastic aptitude make sufficient gains in reading achievement to justify their selection for CSC treatment. The available evidence does give reason to question the value of two semesters' continuous treatment for elementary school pupils having very low or low aptitudes. However, in view of the smallness of the number of these pupils, further investigation is needed before any firm conclusion can be drawn.

Changes in CSC Pupils' Attitudes and Behaviors in the Regular School Classroom

In an attempt to obtain evidence of the effects of CSC participation on pupils' attitudes, behaviors, and achievements in their regular school classrooms, a questionnaire was administered to regular classroom teachers of randomly selected pupils attending the regular CSC centers. Near the end of the 2nd semester, 1966-67, the questionnaires were sent to the homeroom teachers of elementary school pupils and to the English teachers of junior and senior high school pupils. Of the 200 questionnaires sent, 144 were completed and returned. The questions asked the teacher to rate the CSC pupil in his class with respect to changes in attitudes or behaviors shown during the 2nd semester. Each question also provided space for comments by the teacher. The rationale of this approach was the assumption that changes in regular classroom attitudes and behaviors ascribed to pupils were in part due to participation in the CSC program.

The first question asked "At the present time how does this child's attitude toward school and learning compare with his attitude at the beginning of the present semester?" The numbers and percents of pupils given each rating are presented below. Results are presented separately for pupils at four school levels, namely, Grades 3 and 4, Grades 5 and 6, Grades 7 through 9, and Grades 10 through 12.

		Frequency Distribution of Ratings					
Grade Level	No. of Pupils	Unable to Judge	Much Worse	Somewhat Worse	No Change	Somewhat Improved	Much Improved
3-4	24	1 (4%)	1 (4%)	1 (4%)	9 (38%)	11 (46%)	1 (4%)
5-6	51			2 (4%)	25 (49%)	20 (39%)	4 (8%)
7-9	16				5 (31%)	8 (50%)	3 (19%)
10-12	53	2 (4%)		3 (6%)	25 (47%)	18 (34%)	5 (9%)
Total	144	3 (2%)	1 (1%)	6 (4%)	64 (44%)	57 (40%)	13 (9%)

The data show that about 50 percent of all pupils rated had shown some degree of improvement in attitudes toward school during the semester according to their teachers, while about 5 percent had evidenced changes for the worse in this respect. Comparisons of the data for the different school levels reveal that the junior high pupils were most likely to have received "improved" ratings. It should be noted that of the 64 "no change" ratings, 29 were explained by comments that the child had had a good attitude toward school from the beginning. Teachers' comments in response to the first question described positive changes in attitude toward school on the part of 25 pupils, while negative changes were described in the cases of 6 pupils. A few of the comments were the following:

> "His attitude has changed tremendously since he entered the room. He now begins and completes all written work." (Grade 5 pupil)
>
> "He is more eager to participate in learning activities." (Grade 7 pupil)
>
> "Disinterested, refuses to attend, wants to drop out of school." (Grade 10 pupil)
>
> "At first he had no confidence in himself. Now he volunteers to read and pronounce words." (Grade 5 pupil)

The second question was "At the present time how does this child's classroom behavior (general citizenship) compare with his behavior at the beginning of the present semester?" The distribution of pupils by ratings from their teachers was as follows:

		Frequency Distribution of Ratings					
Grade Level	No. of Pupils	Unable to Judge	Much Poorer	Somewhat Poorer	No Change	Somewhat Improved	Much Improved
3-4	24			3 (13%)	13 (54%)	8 (33%)	
5-6	51			5 (10%)	28 (55%)	14 (27%)	4 (8%)
7-9	16				9 (56%)	5 (31%)	2 (13%)
10-12	53	5 (9%)		4 (8%)	26 (49%)	13 (25%)	5 (9%)
Total	144	5 (3%)		12 (8%)	76 (53%)	40 (28%)	11 (8%)

The data indicate that 36 percent of all pupils rated had shown some degree of improvement in behavior in their regular school classrooms, while 8 percent were rated "somewhat poorer" in behavior at the end of the semester. Teachers' comments revealed that 40 of the 76 pupils rated "no change" had shown good classroom behavior from the beginning, and thus could not have made marked improvements in this respect. The data also reveal that a slightly higher percent of the junior high school pupils showed improved behavior than did elementary or senior high school pupils. An examination of the teachers' comment responses to the behavior question revealed descriptions of positive changes in the behavior of 13 pupils, and a negative change in the case of one pupil. Some of the comments were the following:

> "Child is still domineering and not always considerate of his classmates." (Grade 4 pupil)
>
> "He is more serious and attentive to his schoolwork." (Grade 6 pupil)
>
> "The student now has better internal controls. There also seems to be an improvement in peer relationships." (Grade 8 pupil)
>
> "More cooperative. Less annoyed if called upon. Showing more initiative." (Grade 11 pupil)

The third question read "At the present time how does this child's effort on schoolwork compare with his effort at the beginning of the present semester?" The distribution of pupils by ratings was as follows:

Grade Level	No. of Pupils	Frequency Distribution of Ratings					
		Unable to Judge	Much Less	Somewhat Less	No Change	Somewhat Greater	Much Greater
3-4	24			3 (13%)	8 (33%)	9 (37%)	4 (17%)
5-6	51			5 (10%)	16 (31%)	26 (51%)	4 (8%)
7-9	16	1 (6%)		1 (6%)	5 (31%)	8 (51%)	1 (6%)
10-12	53	1 (2%)		3 (6%)	21 (40%)	22 (41%)	6 (11%)
Total	144	2 (1%)		12 (8%)	50 (35%)	65 (45%)	15 (10%)

The data for the entire group of pupils rated show that 56 percent had shown improvements in effort on regular classroom schoolwork, while 8 percent had shown "somewhat less" effort. The data show no marked differences among pupils at different school levels in tendency to have shown improved effort on schoolwork. Teachers' comments described improvements in effort by 25 pupils, poorer effort by 3 pupils. A few of the comments concerning efforts were the following:

> "He puts forth more effort and seems to enjoy his work. I see a sense of pride developing." (Grade 3 pupil)
>
> "He asks more questions and appears more concerned about his work."
>
> "He tries in many cases where he used to give up." (Grade 7 pupil)
>
> "He makes absolutely no effort to do his schoolwork. He just sits and daydreams." (Grade 5 pupil)
>
> "She has made an effort to improve her work; asks for help, and as a result has come up from 'C' to a 'B'." (Grade 11 pupil)

The fourth question was "At the present time how does the amount of interest taken in his schoolwork by this child compare with the amount of interest shown at the beginning of this semester?" The distribution of pupils by ratings was as follows:

Grade Level	No. of Pupils	Frequency Distribution of Ratings					
		Unable to Judge	Much Less	Somewhat Less	No Change	Somewhat Greater	Much Greater
3-4	24			3 (13%)	9 (38%)	11 (45%)	1 (4%)
5-6	51			5 (10%)	19 (37%)	26 (51%)	1 (2%)
7-9	16			2 (13%)	4 (25%)	9 (56%)	1 (6%)
10-12	53	2 (4%)		3 (6%)	22 (41%)	19 (36%)	7 (13%)
Total	144	2 (1%)		13 (9%)	54 (38%)	65 (38%)	10 (7%)

The data show that 52 percent of all pupils rated had shown an increase in interest taken in schoolwork, while 13 percent had exhibited a decline in interest. A slightly higher percent of the junior high pupils had demonstrated some degree of improvement in interest in schoolwork than had the elementary or senior high school pupils. The comments of 13 pupils' teachers described improvements in interest taken in schoolwork, and one pupil's teacher commented on a decline in interest. A sampling of the comments is presented below.

"Has expressed greater interest in literature and library books." (Grade 5 pupil)

"He shows more perseverance in completing a project." (Grade 6 pupil)

"Shows little or no interest." (Grade 3 pupil)

"She has seemed to increase her interest in class and become more aware of her grades." (Grade 10 pupil)

The fifth question asked of the regular classroom teachers was "At the present time how does the general quality of this child's classroom work in your room compare with the quality of his work at the beginning of this semester?" The distribution of responses was as follows:

Grade Level	No. of Pupils	Frequency Distribution of Ratings: Unable to Judge	Much Poorer	Somewhat Poorer	No Change	Somewhat Better	Much Better
3-4	24	1 (4%)		2 (8%)	6 (25%)	12 (50%)	3 (13%)
5-6	51	1 (2%)		2 (4%)	19 (37%)	27 (53%)	2 (4%)
7-9	16			1 (6%)	6 (38%)	8 (50%)	1 (6%)
10-12	53	3 (6%)		5 (9%)	18 (34%)	18 (34%)	9 (17%)
Total	144	5 (3%)		10 (7%)	49 (34%)	65 (46%)	15 (10%)

The data for the total group reveal that 56 percent of the pupils had shown improvements in the quality of their classroom work, while 7 percent were rated somewhat poorer in this respect at the end of the semester. Pupils in Grades 3 and 4 ranked above those in the higher grades in percent rated as having shown improvements in quality of classroom work. Teachers' comments

discussed improved classroom work on the part of 15 pupils, and poorer classroom work in the cases of 6 pupils. Illustrative of the comments were the following:

> "Her reading ability has shown steady improvement." (Grade 3 pupil)
>
> "She has improved. She seems to be more able to grasp the work and carry it out to completion." (Grade 6 pupil)
>
> "Her test marks have fallen considerably." (Grade 10 pupil)
>
> "Comprehension improved. Also written work has improved." (Grade 11 pupil)

The sixth question asked "During the present semester what change if any, have you observed in this child's interest in reading for pleasure (either in school or at home)?" The responses were distributed as follows:

		Frequency Distribution of Ratings					
Grade Level	No. of Pupils	Unable to Judge	Great Decrease in Interest	Some Decrease in Interest	No Change	Some Increase in Interest	Great Increase in Interest
3-4	24	2 (8%)			10 (42%)	12 (50%)	
5-6	51	5 (10%)		1 (2%)	21 (41%)	23 (45%)	1 (2%)
7-9	16				4 (25%)	11 (69%)	1 (6%)
10-12	53	14 (26%)		3 (6%)	18 (34%)	14 (26%)	4 (8%)
Total	144	21 (15%)		4 (3%)	53 (37%)	60 (41%)	6 (4%)

The data show that some degree of increase in interest in reading for pleasure was ascribed to 45 percent of all pupils rated, while 3 percent had shown some decrease in interest. The data also reveal that the junior high pupils were according to their teachers, most likely to have shown increased interests in recreational reading. Teachers' comments mentioned evidences of increased interest in reading for pleasure by 25 pupils and decreased interest on the part of 2 pupils. A few of the comments were the following:

> "During her free time she now will pick up a book rather than something else." (Grade 4 pupil)

"Student has checked out several free reading books lately." (Grade 8 pupil)

"He shows no interest in reading for pleasure." (Grade 6 pupil)

"Shows increased interest in reading American history." (Grade 7 pupil)

"Interest has changed from complete lack of interest to great interest." (Grade 11 pupil)

The seventh question was "How would you rate the overall educational value to this child of his participation in the remedial reading program at the Communications Skills Center?" Responses were distributed as follows:

Grade Level	No. of Pupils	Frequency Distribution of Ratings: Unable to Judge	No Value	Little Value	Some Value	Considerable Value	Very Great Value
3-4	24	3 (13%)		3 (13%)	6 (25%)	11 (45%)	1 (4%)
5-6	51	6 (12%)		8 (16%)	18 (35%)	15 (29%)	4 (8%)
7-9	16	2 (12%)		3 (19%)	3 (19%)	6 (38%)	2 (12%)
10-12	53	19 (37%)	1 (2%)	6 (11%)	15 (28%)	7 (13%)	5 (9%)
Total	144	30 (21%)	1 (1%)	20 (14%)	42 (28%)	39 (27%)	12 (9%)

The data show that participation in the CSC program was rated of "some value," of "considerable value," or of "very great value" to a total of 64 percent of all pupils rated. Ratings of "little value" or "no value" were given for 15 percent of the pupils. A considerable number of teachers, especially at the senior high school level, felt unable to make a judgment on the value of the pupils' participation in the project. Comparisons among the percentage figures given in the two highest value columns for the different grade level groups suggest that CSC participation was, in the opinions of regular classroom teachers, of greatest educational value for pupils in Grades 3 and 4 and for those in the junior high grades. The teachers of 23 pupils wrote positive comments about the value of the pupils' participation in the project, while 8 teachers wrote comments indicating lack of value of

their pupils' participation. Some of the comments were the following:

> "The center has helped him in developing his self-confidence, and a desire for better than average achievement." (Grade 4 pupil)
>
> "I believe the CSC has been extremely helpful in her reading problems. She now reads with much more confidence and poise." (Grade 5 pupil)
>
> "How much improvement can be made in one semester? The value of CSC is not necessary obvious immediately." (Grade 10 pupil)
>
> "She needs the individual help she receives at CSC. It is this kind of assistance that will lead her toward better achievement." (Grade 6 pupil)
>
> "I've seen little in her attitude or behavior to show she has gained much from her experiences at CSC." (Grade 3 pupil)
>
> "Confidence and increased skills go hand in hand, and this self-confidence gained by CSC pupils as they become more skilled will be the greatest and longest lasting value to them." (Grade 10 pupil)

Summary of Findings of the Teacher Questionnaire Study

The analysis of regular classroom teachers' responses to the questionnaire has revealed that, among the 144 CSC pupils who were rated--

70 (49%) showed improvements in attitudes toward school and learning;
7 (5%) showed changes for the worse in this respect

51 (36%) showed improvments in classroom behavior;
12 (8%) showed negative changes in this respect

80 (56%) showed improvements in effort on school work;
12 (8%) showed negative changes in this respect

75 (52%) showed improvments in interest in school work;
13 (9%) showed negative changes in this respect

80 (56%) showed improvements in quality of classroom work;
10 (7%) showed negative changes in this respect

66 (45%) showed an increase in interest in reading;
4 (3%) showed negative changes in this respect

Teachers also responded that the overall educational value of participation in the CSC program was from "some" to "very great" for 93 (64%) of the 144 pupils.

Further analysis revealed that 107 (74%) of the pupils were judged to have shown improvements in one or more of the attitudes or behaviors

investigated; that 91 (63%) had improved in two or more; and that 24 (17%) had shown improvements in all.

Since no similar study was made of a control group of retarded readers who did not participate in the CSC program, it is impossible to conclude with any degree of certainty that improvements reported were due to the CSC treatment. However, the overall evidence clearly supports a conclusion that, in the opinions of their regular classroom teachers, the majority of 144 randomly selected CSC pupils did show noticeable signs of improvements in attitudes and/or behaviors in their regular school classrooms.

Effectiveness of Inservice Education Workshops Conducted by CSC Personnel

Descriptions of Workshops

During the period of the school year 1966-67 and the summer of 1967, a total of 637 regular classroom teachers attended inservice education workshops conducted by CSC personnel. The basic purpose of these workshops was to improve teachers' understanding and skill in the use of diagnostic and remedial reading techniques and materials in teaching disadvantaged children. A brief description of each of the four workshops conducted is presented below.

1. Title: Improving Reading Skills--Funded under Project F.A.S.T. and held during February, 1967, at the Durfee Junior High School, this workshop was attended by 548 regular classroom teachers. Most of the participants were either elementary school reading teachers or secondary school English teachers. Each teacher attended 2 after-school sessions for a total of 5 hours of inservice education. Participants were divided into 10 groups, with each group attending 6 subsession meetings concerning different topics in the field of remedial reading instruction. Of the 10 consultants who served as leaders, 7 were members of the CSC staff.

2. Title: Using a Clinical Approach to Train Reading Teachers of Disadvantaged Children--Beginning late in May, 1967, 19 regular classroom teachers attended 5 all-day sessions of this workshop which was conducted at 5 of the regular CSC centers. The unique feature about this workshop was the opportunity for participants to work with CSC pupils under the guidance of a CSC teacher. Participants were also given the opportunity to confer with the CSC specialists, the reading diagnostician, the psychologist, and the social therapist. Throughout the workshop, the regular CSC program was continued without interruption.

3. Title: Using a Clinical Approach to Train Reading Teachers of Disadvantaged Children--(Summer Session)--This workshop, conducted at 4 of the regular CSC centers in July, 1967, was conducted in a manner very similar to the one described above (see number 2), except that its participants attended 9 half-day sessions. There were 28 participants.

4. Title: Training Teachers in Techniques and Materials for Use in Reading Improvement Classes--The purpose of this workshop was to provide special training in remedial reading instruction for 42 teachers who had been selected to teach reading improvement classes at selected schools beginning in September, 1967. Participants attended 5 full day sessions held at 4 regular CSC centers during August, 1967. Regular CSC staff members served as consultants.

Results of the Evaluation of the CSC Workshops

Three of the 4 workshops described above were evaluated through the use of questionnaires administered to participants. A discussion of the findings is presented below.

Improving Reading Skills--Of the 548 participants who attended this workshop, 498 completed and turned in evaluation questionnaires. The distributions of their responses to 5 questions, on a percentage basis, were as follows:

Question	Frequency Distributions of Ratings in Percents				
	Not At All	Poorly	So-So	Quite Well	Very Well
1. To what degree did the workshop meet its objectives?	3	8	17	37	35
2. How well were your questions (expressed or unspoken) answered?	2	8	22	36	32
3. How well did the workshop stick to the practical?	4	7	18	31	40
4. How well did the workshop meet your needs relative to its topic?	3	8	26	33	30
5. How well was the workshop organized?	5	5	8	19	63

The data show that most of teachers were "quite well" or "very well" satisfied with the workshop in every respect mentioned in the questions, and that only about 10 percent gave low ratings in response to each question. Perhaps the most important single question was the one which asked how well the workshop met the participant's needs. In response to this question 63 percent of the participating teachers said "quite well" or "very well," and 11 percent answered "poorly" or "not at all." In the space provided for comments many teachers expressed praise for certain speakers whom they considered especially helpful. Others made constructive criticisms and suggestions for improvement of the workshops. A complete

listing of all comments will be sent to the project director and to other persons responsible for inservice education in reading instruction for guidance in the planning of future workshops having similar purposes.

Using a Clinical Approach to Train Reading Teachers of Disadvantaged Children (Summer Session)--Of the 28 teachers who participated in this workshop held at CSC centers, 24 returned completed evaluation questionnaires. The first question asked, "Of how much value were the workshop experiences to you (in terms of your needs, interests, and goals)?" The distribution of responses was as follows:

Workshop Activity	Frequencies of Teacher Ratings: Low or Very Low Value	Moderate Value	High or Very High Value
Diagnosis of reading difficulties of one pupil	2 (8%)	3 (13%)	19 (79%)
Development of remedial program for one pupil	0 1 (4%)	5 (21%) no response	18 (75%)

Another question asked the participants, "To what extent do you think you will actually be able to use in your classroom the techniques you have learned in the workshop?" Responses were distributed as follows:

	Frequencies of Expected Classroom Usage: Little	Some	Much
Diagnostic techniques	5 (21%)	7 (29%)	12 (50%)
Individual remedial techniques	3 (12%)	10 (42%)	11 (46%)
Group remedial techniques	1 (4%)	8 (33%)	15 (63%)

Comments written on the questionnaires indicated that participants were very favorably impressed with the quality of work done by the CSC staff, and especially with the practicality of the help they were given at the workshop. Some illustrative comments were the following:

"This workshop was extremely helpful to me in that it provided many practical lessons and techniques that I can easily take back to my classroom. This is the first reading orientation that has done this for me."

"This workshop has been the most practical and beneficial one that I have participated in."

"The diagnostic tools which we learned about should enable me to assess new child's needs much more quickly."

"I feel as though I am better able to provide for individual differences now."

"This workshop experience has been of immeasurable value to me. I plan to make full use of the excellent diagnostic and remedial techniques made available to me."

Training Teachers in Techniques and Materials Used in Reading Improvement Classes--All of the 44 teachers preparing to teach reading improvement classes who participated in this workshop completed the evaluation questionnaire. The distributions of their ratings of the workshop on 3 items were as follows:

	Frequencies of Participant's Ratings			
	Poor	Fair	Good	Excellent
1. Use of Communication Skills Centers as workshop sites.			4 (9%)	40 (91%)
2. Practicality of consultant's ideas and/or suggestions.			5 (11%)	39 (89%)
3. Opportunities for questions and discussions.			2 (5%)	42 (95%)

The data show that all participants rated the workshop "excellent" or "good" on all criteria mentioned in the questionnaire items.

Another item on the questionnaire was worded, "I consider that my workshop experience was:"--followed by 4 value ratings choices. The distribution of responses was as follows:

Of no Value	Of some Value	Valuable	Very Valuable
0	1 (2%)	7 (16%)	36 (82%)

Almost all of the comment responses written on the questionnaires expressed high praise for the value of this workshop. Many participants said they wished it were longer than 5 days. Some of the comments attesting to participants' high regard for the workshop were the following:

> "This has been the finest workshop of any kind I've ever attended. The CSC staff deserve the highest praise."
>
> "This workshop would make an excellent methods course at any university."
>
> "In my opinion this workshop was comparable to three courses rolled into one."
>
> "I felt that this workshop was tremendous. The amount of work and preparation by the consultants was so evident. I have nothing but the highest praise for all involved in the presentation."
>
> "This workshop has been one of the most stimulating experiences in education that I have had in years."
>
> "There have been few courses that have provided so much practical exposure to materials and equipment as well as stimulation and enthusiasm to get to work and see what we can do."

Conclusion--While the ultimate test of the value of the CSC-sponsored workshops will occur in the classrooms of participants, the available evidence supports a conclusion that many regular classroom teachers believe that these workshops have been effective in helping them to learn useful skills in the use of diagnostic and remedial reading techniques. Moreover, there is strong evidence that the teachers about to begin work as teachers of reading improvement classes consider that the special workshop was a valuable pre-service education experience for them.

Comparisons of the evaluation findings for the different workshops reveal that teachers place a higher value on these workshops in which they actively participate than on the so-called workshopswhich involve listening to experts.

Feeder School Teachers' Appraisals of CSC Operations

Discussed earlier in this report was a questionnaire administered to 144 regular classroom teachers of CSC pupils which inquired about changes in the pupils' attitudes and behavior in the regular classroom situation. This questionnaire included a question which asked the teachers, "Have you any comments or suggestions concerning ways in which CSC services to pupils and/or feeder school teachers have been helpful or could be improved?" About one-third of the teachers responded to this question. Fourteen commented that CSC was doing a good job or that it had helped the child in question. The more frequently expressed suggestions for improvement are summarized below with the number of respondents making each comment indicated in parentheses.

There is a need for closer communication between CSC personnel and feeder school teachers and for better coordination of efforts. (7 respondents)

CSC personnel should provide more feedback to regular classroom teachers concerning the nature of children's reading deficiencies. (4 respondents)

CSC personnel should do more by way of suggesting methods for meeting the child's remedial reading needs. (5 respondents)

Periodic reports on CSC pupils' progress should be sent to regular classroom teachers. (4 respondents)

Feeder school teachers would be helped by opportunities to see the CSC program in action. (2 respondents)

Too much time is spent in transportation of CSC pupils to the centers. The service should be provided at the schools. (2 respondents)

Cost Analysis

The total cost of the operation of the CSC project for the period from September, 1966, through August, 1967, was approximately $1,101,000. By dividing this figure by the total number of pupils enrolled, 2845, an approximate operational cost per participating pupil of $380 is obtained.

Summary of Evaluation Findings

The evaluation of the CSC project for the 1966-67 year of operation has revealed the following major findings:

1. Means of gains in reading comprehension achievement made by CSC pupils in grades 3 through 6 were generally about equal to gains to be expected of normal-achieving pupils, and substantially greater than would be expected on the basis of the CSC pupils' progress before treatment. Means of gains in vocabulary achievement for the pupils in grades 3 through 6 were generally no greater than would be expected according to their achievements before enrollment in CSC classes. (Evidence presented on pages 11 and 14)

2. Elementary school pupils attending CSC classes made considerably greater gains in reading achievement during their second semester of treatment than during their first semester. (Evidence presented on pages 16 and 17)

3. Means of gains in reading achievement made by CSC pupils in grades 7 through 12 were, in almost all cases, greater than would be expected for normal-achievers, and more than twice as great as would be expected on the basis of the CSC pupils' achievements before treatment. (Evidence presented on pages 12-15)

4. The majority of CSC pupils, at all school levels, who rated low or very low in scholastic aptitude made greater improvements in reading achievement during their treatment periods than would be expected on the basis of their achievements before enrollment in CSC classes. (Evidence presented on pages 19 and 20)

5. A study of changes in attitudes, behaviors, and achievements shown by randomly selected CSC pupils in their regular school classrooms provided evidence that of the 144 pupils evaluated, 50 percent showed improvements in attitudes toward school; 36 percent showed improvements in classroom behavior; 56 percent showed increases in effort on schoolwork; 52 percent showed increases in interest taken in learning activities; 56 percent showed improvements in the quality of their schoolwork; 45 percent showed evidence of increased interest in reading for pleasure; and the teachers of 65 percent of the pupils thought that participation in the CSC program was educationally valuable to them. (Evidence presented on pages 21-29)

6. Most of the 596 regular classroom teachers attending CSC-sponsored workshops concerning diagnostic and remedial reading techniques gave a high rating to the value and practicality of the inservice education received at these workshops. (Evidence presented on pages 31-33)

7. A CSC-sponsored workshop for teachers preparing to teach special reading improvement classes was rated as a very valuable and practical learning experience by the overwhelming majority of the 44 participants. (Evidence presented on pages 33 and 34)

8. The most frequently mentioned suggestions for improvement of the CSC program obtained from randomly selected regular classroom teachers of CSC pupils were to the effect that there should be closer communication between CSC personnel and feeder school teachers and more feedback to classroom teachers concerning pupils' reading deficiencies and needs for special kinds of remedial reading help in the regular school classroom. (Evidence presented on page 35)

Recommendations and Conclusions

The results of this evaluation appear to support the following recommendations concerning future operations of the CSC project:

1. Elementary school children generally can profit by treatment in CSC classes for a period of two complete semesters.

2. In planning remedial instruction for elementary school pupils, CSC personnel should devote more attention to the development of pupils' reading vocabularies and word recognition skills.

3. In view of the strength of the evidence of the value of CSC treatment to junior high school pupils, and in consideration of the important influence of the junior high school years on pupils' future educational attainments, it is strongly recommended that reconsideration be given to the decision to terminate CSC services to junior high school youth.

4. The evidence concerning gains in reading achievement made by CSC pupils having low scholastic aptitudes supports a recommendation that children should not be denied admission to CSC classes solely on the basis of low scores (D and E mental ratings) on Detroit's regularly scheduled tests of scholastic aptitude.

5. The CSC project should continue conducting inservice education workshops on remedial reading instruction for regular classroom teachers of the language arts. The type of workshop conducted at the CSC centers which provides for active participation by teachers is especially effective. Opportunities should be provided for more teachers to participate in such workshops.

6. CSC personnel should make a continuous effort to establish closer communication with regular classroom teachers of CSC pupils, and to provide more feedback concerning pupils' reading problems and needs for specific kinds of help in the regular school classroom.

The evidence obtained during the second year of operation shows that substantial progress was made toward the attainment of CSC project objectives. Most of the pupils served have shown improvements in reading achievement. Many have been reported as showing improvements in attitudes toward learning and quality of schoolwork in their regular school classrooms. A large number of regular classroom teachers have rated highly the value of inservice education received at workshops conducted by CSC personnel.

Further evidence is needed to determine the long range effects of CSC treatment on scholastic achievement and attitudes toward learning in the regular classroom situation. Evidence is needed, also, to determine whether CSC participation affects pupil dropout tendencies. Finally, it is important that evidence be obtained relative to the effectiveness of counseling services provided by CSC personnel.